



CAUTION BAY STUDIES IN ARCHAEOLOGY 1

# ARCHAEOLOGICAL RESEARCH AT CAUTION BAY, PAPUA NEW GUINEA

CULTURAL, LINGUISTIC AND  
ENVIRONMENTAL SETTING

Edited by

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ARCHAEOPRESS PUBLISHING LTD

Gordon House  
276 Banbury Road  
Oxford OX2 7ED

[www.archaeopress.com](http://www.archaeopress.com)

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ISBN 978 1 78491 504 9  
ISBN 978 1 78491 505 6 (e-Pdf)

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Cover: Tanamu 2 excavations in progress, 27 November 2009. The site is located 110 metres inland of the mangrove-fringed coastline, on the western margin of Caution Bay's alluvial plain as it extends into the littoral zone. Occupation at the site peaked around 2500 cal BP (photograph by Ian J. McNiven).

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Printed in England by Oxuniprint, Oxford  
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# Chapter 1.

## Introduction to the Caution Bay Archaeology Project

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### Introduction

In 2008 we began intensive archaeological surveys at Caution Bay, located 20km to the northwest of Port Moresby, Papua New Guinea (Figure 1.1). We followed this with the excavation of 122 stratified sites in 2009-2010, and detailed analysis of the well preserved and abundant faunal, ceramic and lithic finds has been continuing ever since.

The Caution Bay Archaeology Project is providing new and exciting contributions to western Pacific prehistory. It has radically expanded the known geographic distribution of the Lapita Cultural Complex to include, for the first time, the southern coast of Papua New Guinea; it has established the relationship of Lapita to later cultural expressions in this area; it has pinpointed the time of arrival of domesticated animals along the southern coast of Papua New Guinea and, by inference,

on the larger island of New Guinea; it has provided new insights into the impact of resident populations on local terrestrial and marine environments over a 5000 year time period; and perhaps of greatest significance, it has provided a unique opportunity to document, using multiple strands of archaeological evidence, interactions between resident and colonizing populations at a time of cultural transformation c. 2900 years ago.

Over seven hundred indigenous archaeological sites were identified in survey areas comprising coastal and inland landscapes drained by the Vaihua River and Ruisasi Creek (see Chapter 8). The archaeological excavation of 122 stratified sites within the core study area, measuring 3.1km east-west by 2.8km north-south, comprises the largest excavation program ever undertaken in the western Pacific (Figure 1.2). Detailed analyses by experts of the finds from the excavations is fully supported by a dating program consisting of more than 1300 AMS

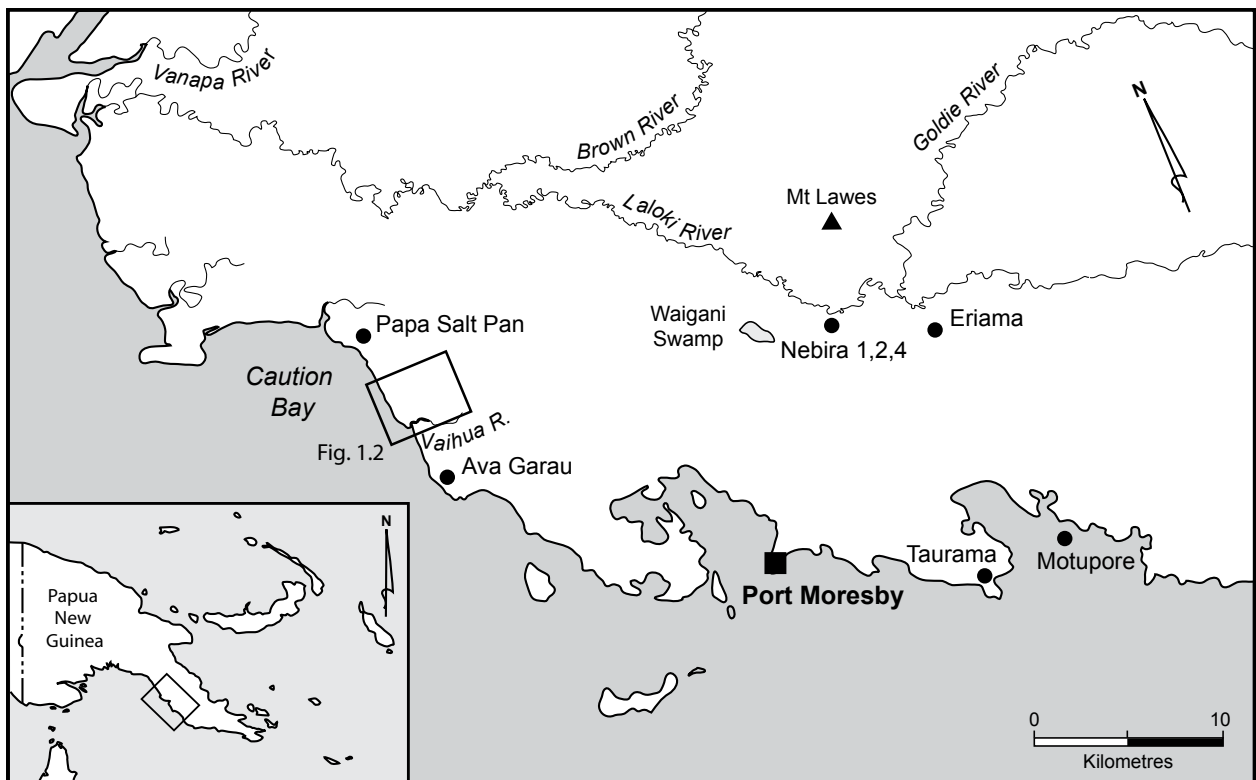


FIGURE 1.1. LOCATION OF THE CAUTION BAY STUDY AREA AND SITES EXCAVATED PRIOR TO 2009 (BLACK DOTS) IN THE BROADER PORT MORESBY REGION.

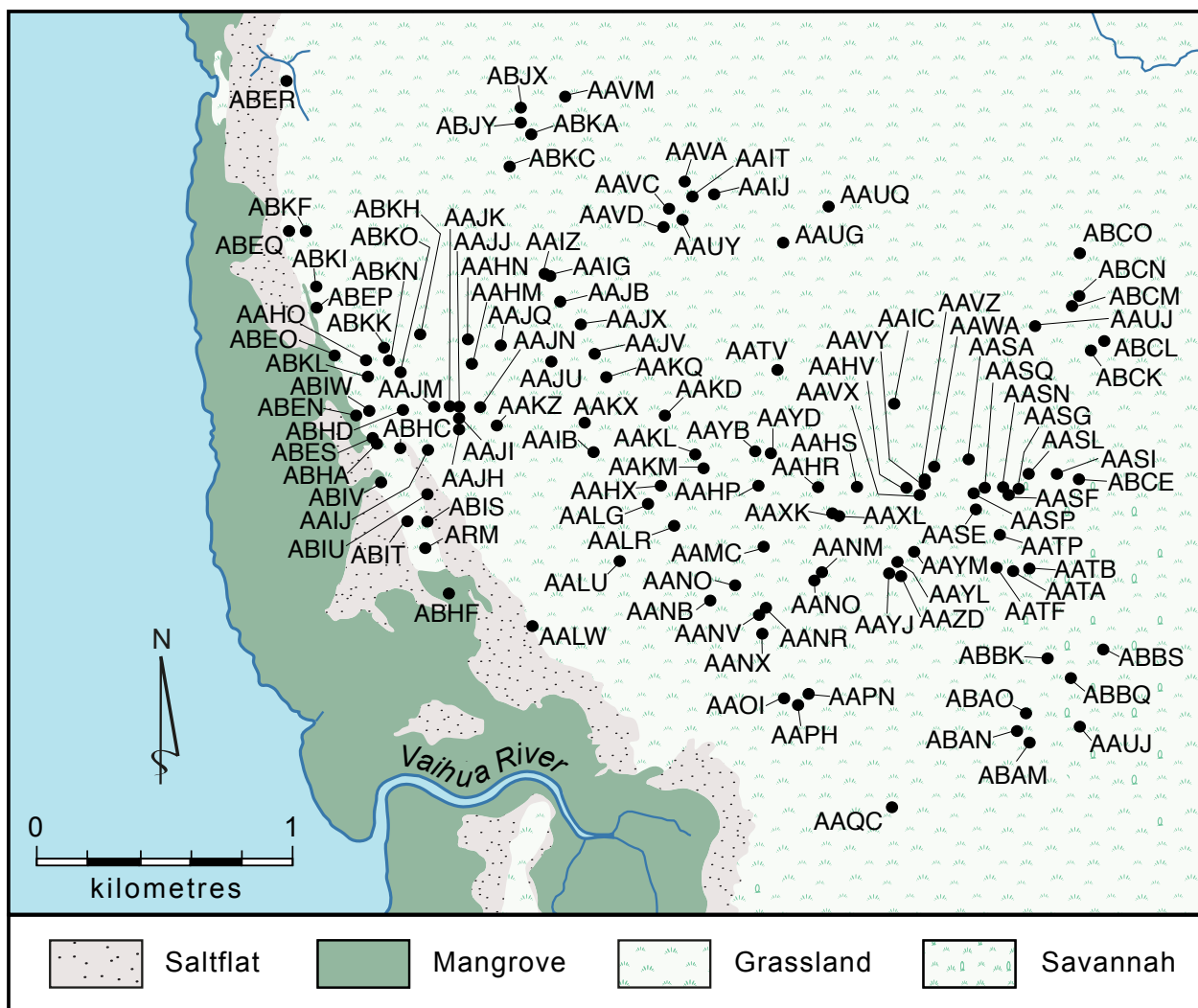


FIGURE 1.2. SITES (BLACK DOTS) EXCAVATED AT CAUTION BAY, 2009-2010, WITH PAPUA NEW GUINEA NATIONAL MUSEUM AND ART GALLERY REGISTRATION CODES.

radiocarbon dates, a number unprecedented for any single archaeology project in the southern hemisphere.

The Caution Bay Archaeology Project was only possible on such an unprecedented scale because it formed part of cultural heritage impact studies in advance of construction of a liquefied natural gas plant near Port Moresby. The client, along with the main proponent, maintained control of the cultural heritage management aspects of the development from the outset, with our responsibility largely focused on research-oriented salvage excavations.

Intensive pedestrian field surveys were undertaken across the entire study area in late 2008 and early 2009, following burning of the grass to provide a high degree of ground visibility. Site survey and the subsequent salvage excavations were supervised by staff of Monash University; the main salvage excavations took place in a narrow window of time from September 2009 through to March 2010, and were immediately followed by large-

scale infrastructure construction activities. Following the main salvage period, a small team of archaeologists was permitted to return to excavate a single human burial in April 2010. Wet sieving of excavated sediments and the preliminary sorting of finds in the field laboratory continued until June 2010.

The salvage excavation program relied extensively on the collaboration and participation of University of Papua New Guinea staff and students. Local community representatives of Boera, Papa, Lea Lea and Porebada villages also made substantial contributions, especially to the fieldwork. These village representatives, employed by the developers, worked with professionally trained Monash University personnel on all aspects of the fieldwork, both at the sites and in the field laboratory.

Following completion of the salvage work and reporting to the clients in mid-2011, Phase 2 research set in with the excavated materials, now housed at Monash University, becoming available for more detailed analyses and

publication. Analyses have been in progress ever since, working towards publication in this monograph series.

From the onset, the guiding assumption of the excavation program was that the majority of archaeological sites in the Caution Bay study area were going to be destroyed or made inaccessible to further study during construction activities. Consequently, one objective of the salvage program was to obtain a meaningful sample of cultural material from this landscape before it was permanently altered. The chosen strategy was to excavate as many sites as possible where surface exposures identified during the project surveys indicated the presence of potentially stratified deposits (see Chapter 9). We explicitly chose to undertake a large number of small excavations within the available time, rather than limit ourselves to a handful of large excavations, so as to sample subsurface deposits in a range of environmental settings and covering a range of potential time frames. By this means we hoped to obtain a diverse sample of the material residues of human activities in the study area, through time and across the landscape. This decision was made in part because we had no idea what lay beneath the surface prior to the excavations – extensive excavations at just a few sites could have led to the sampling of one period of time only, at the expense of other cultural phases elsewhere across the landscape – and partly to historicize landscape engagements across the entire region through time.

Strict adherence to highly controlled excavation methods and broad landscape sampling has resulted in abundant, high integrity excavation data. The excavated sites typically contain an abundance of molluscan remains, a variable quantity of non-molluscan faunal remains including both marine and terrestrial animals, lithics and ceramics, with occasional personal decorative items and other valuables, usually of shell, but also of sea urchin and of stone. A subset of sites produced unusually rich concentrations of particularly informative materials such as obsidian and ceramics. Features such as infilled postholes, hearths and earth ovens are rare and only two sites have human burials, although isolated human remains are fairly common. Typically, detailed laboratory investigations were undertaken by specialists on the faunal remains, ceramics and lithics from each site, but additional specialist analyses were frequently warranted on special classes of finds including shell artefacts, sediments, pollen, obsidian, pottery fabrics, human skeletal remains, human and animal aDNA, and other materials.

Excavations were undertaken in three main landforms: coastal sand dune, riverine lowland sub-coastal plains with clayey and clayey loam sediments, and low rocky and clayey loam slopes and hilltops of the highland foothills. Sites located on the coastal sand dune tend to have deeper stratified cultural deposits with more occupation phases than the off-dune clay and clayey

loam sites, which tend to be shallower and usually only contain one major occupation phase, although there are some exceptions to this general pattern. The combination of well-dated deeply stratified multi-occupation deposits at a few locations and many single occupation components from throughout the study area allow us to construct a highly detailed culture-historical sequence, and thence, to investigate in considerable detail many research themes, as detailed below.

### Research Goals and Themes

Originally, our research goals focused on building a well-dated cultural sequence for Caution Bay, with emphasis on a detailed ceramic sequence, plus attention on the emergence of the historic *hiri* trade (discussed below and at length in Chapter 6), the timing of the introduction of domesticates including the pig, dog and chicken, and the understanding of land-use patterns through time. At the time of writing we have unambiguous evidence of human occupation dating back to more than 5000 cal BP with cultural horizons covering every century from 4300 cal BP to at least 1500 cal BP. As for the more recent period of the past 1500 years, we have not yet begun to study those sites in any detail, but radiocarbon dates already, and possibly entirely, fill this gap. There are yet many sites that are still undergoing analysis and dating, and it is likely that the start of the Caution Bay cultural sequence will be extended further back into the past, while at the other end of the chronological spectrum, the possibly less well represented last 1500 years (or less) of the sequence will likely be fleshed out with more analysis and dating. These results have more than doubled the age of the previously earliest dated archaeological evidence, and have provided the first record of pre-ceramic coastal adaptations, for the broader Port Moresby region. As a historical foundation for understanding the long-term development of the ethnographic cultural landscape, the results from Caution Bay are probably without parallel in the wider Pacific region.

Without doubt the single most startling outcome of the excavations at Caution Bay was the discovery of a Lapita colony dating to *c.* 2900-2600 cal BP, and our research goals have diversified accordingly; they now include nine major themes, as introduced below. Naturally, these themes are not mutually exclusive but, rather, form an integrated whole with numerous overlapping and interdigitating elements.

### *Lapita Colonization*

The combination of abundant finely-excavated ceramics and other materials, and precise chronological control from numerous sites, allows us to accurately document the time of arrival of Lapita colonists at Caution Bay. Since we also have pre-ceramic occupation sites in a common locality dating from *c.* 5000 years ago up to

the arrival of Lapita peoples, we are presented with an opportunity unique in the Pacific to characterize the nature of initial interactions between incoming Lapita and pre-existing groups at this critical social and cultural juncture, as well as their subsequent relationships.

Also important to consider are the ties the colonists maintained with other parts of the Lapita world, or at least with their place of origin, after arriving at Caution Bay. We will examine this issue through assessment of the Caution Bay archaeological record against the wider corpus of regional studies.

### **Ceramic Transformations**

The emphasis of the Caution Bay ceramic analysis is to produce a local sequence using only the Caution Bay data, rather than attempting to revise problematic existing ceramic sequences or horizons from other parts of the south coast of PNG (see Chapter 2). Pottery is one of the most commonly occurring cultural materials in our excavated sites, ranging from a few nearly whole vessels (e.g., David *et al.* 2013) to sizable sherds, to tiny comminuted sherds. Although the bulk of the pottery consists of tiny fragments that were recovered in our 2.1mm mesh sieves, there are substantial samples of potsherds in the 3 - 10cm size range in many of the excavated sites. The condition of the pottery is variable, but good enough to identify surface decoration style in every assemblage analysed thus far. In several sites, conjoining of sherds has taken place, greatly facilitating recording of full decoration patterns and identification of vessel shapes.

With the abundant ceramics from numerous stratified sites – we estimate that there are many hundreds of thousands of sherds in the excavated assemblages, although most are very small – we are able to construct a detailed ceramic sequence starting at *c.* 2900 cal BP with the appearance of Lapita pottery, and continuing largely uninterrupted to the ethnographic period. Key decorative traditions and transformations in stylistic conventions are being identified and finely dated (e.g., David *et al.* 2012). We have, for example, several stratified sites dating from the Lapita to post-Lapita periods on the coast and inland at Caution Bay, with good samples of well-dated, decorated ceramics, allowing this key transformation to be examined in detail (in the second monograph of this series). We also have well-dated excavated ceramic assemblages from throughout the study area pertaining to each subsequent ceramic transformation or phase up to ethnographic times, which will allow these to also be characterized as the analysis progresses.

### **Long Distance Ceramic Trade**

Of widespread interest is understanding the emergence of the ethnographically documented Motu *hiri* trade,

a large scale, long-distance maritime enterprise that involved the transport of locally manufactured clay pots westward in fleets of *lagatoi* sailing ships to be exchanged for sago starch with trading partners hundreds of kilometres distant in the swamplands of the Gulf of Papua (see Chapter 6, this volume). Genealogical reckoning using oral histories suggests a maximum 300-400 years antiquity for this trade. The Caution Bay area features prominently in the ethnographic and oral historic accounts of the *hiri* trade, including origin myths and first *lagatoi* stories, so it is an excellent location from which to investigate the emergence of the *hiri* trade using archaeological data (see Chapters 3, 5 and 6). The abundant, well-dated Caution Bay ceramic assemblages will also enable us to identify indicators of long distance ceramic trade in the region from the Lapita period onwards, including shared ceramic decorative conventions with pottery found elsewhere (e.g., Skelly *et al.* 2014), evidence for the mass production of pottery, or standardization of pot forms akin to *hiri* trade wares.

### **Historicizing the Ethnographic Koita and Motu**

The study area is located in an area occupied today by two originally linguistically unrelated and culturally distinct groups: the Motu, Austronesian language speakers who mostly occupied coastal villages, had a maritime resource focus, and specialized in the manufacture of pottery that they traded far and wide, especially via the *hiri*; and the Koita, non-Austronesian language speakers who mainly occupied inland villages, hunted wallabies and tended gardens, manufactured no pottery until the arrival of Austronesian-speaking peoples, and who participated in the *hiri* through the Motu. The present day and historical relationships between these two ethnographic groups are examined ethnographically and linguistically in Chapters 3 and 4 respectively. We have to consider that we can now archaeologically document the arrival of pottery-making Lapita colonists *c.* 2900 cal BP in a Caution Bay cultural landscape where existing populations did not make pottery. This leads us to ask the following questions: are the maritime-focused, Austronesian language speaking, long-distance travelling, pottery specialist Lapita founding population(s) the direct ancestors of the maritime-focused, Austronesian language speaking, pottery making and long-distance trading, ethnographic Motu of Caution Bay? And are the Koita direct descendants of the existing aceramic Caution Bay populations at the time of arrival of the Lapita people? Or rather is the picture more complex, involving intermarriages and multiple kinds of cross-cultural exchanges and influences, with two, initially distinctive populations literally coming together and perhaps even largely merging at Caution Bay over a period covering nearly three millennia? If so, what is the basis for a more or less distinctive Koita versus Motu cultural identity that we see today? This latter question is one that both the archaeology and social anthropology

can contribute to significantly, and in doing so cross-fertilize our separate disciplinary skills and approaches.

### ***Spatial and Temporal Faunal Resource Utilization Patterns***

Faunal assemblages of marine and terrestrial origin are preserved in virtually every excavated site and throughout the stratigraphic profiles, and in many cases the preservation of bone and shell is good to excellent. To date, only a very few sites have been reported in a preliminary fashion (e.g., McNiven *et al.* 2011, 2012a); however, studies are underway on both the molluscan and non-molluscan faunal remains from numerous coastal and inland sites. The results will allow for progressively more detailed analyses across numerous assemblages, both synchronously across the landscape and through time. In sheer quantity but also in the quality and diversity of remains, the faunal assemblages are without parallel in a New Guinean context. Critically, animals represented in the deposits are derived from every one of the locally represented environments including the off-shore and near-shore marine, the strandline, mangrove and inter-tidal mudflat habitats of the littoral zone, the woodland, grassland and scrub of the inland plains and hills, and the freshwater aquatic habitats and fringing bands of riparian forest of the inland streams.

How these habitats were exploited through time will reveal previously unavailable information about the extractive strategies of both the pre-Lapita residents of Caution Bay and of the earliest Lapita colonists, and of the subsequent pattern of exploitation, over-use and adaptive shifts that occurred across space and through time. The impacts of this utilization on the local environment can also be assayed from the faunal remains, including evidence for depletion and extinction of local populations. Comparison of these results with the findings of pollen analyses within the study area (Rowe *et al.* 2013) will lead to a detailed narrative of regional resource use and its impacts over the past 5000 years. It is anticipated that this record will yield numerous insights into the sustainability or otherwise of traditional resource extraction practices, and that these insights will be of great practical value for the ongoing management of both marine and terrestrial resources in south central New Guinea where many people continue to follow customary practices, often using similar methods as their forebears to obtain the same resources at Caution Bay.

Wallaby hunting is a topic of some interest in the Port Moresby area (e.g., Allen 1977a). This was a notable activity across the region in ethnographic times, and the potential role of fire to modify and maintain landscapes in favour of wallaby-preferred grassland savannah is a topic of great interest. The Caution Bay deposits contain remains of at least three wallaby species and, at times, these were clearly the focus of hunting activity. By

documenting the variable presence and composition of wallaby remains through time and across space, and comparing this pattern to the wider faunal and palynological records, we hope to establish the nature of the relationship(s) between wallaby hunting and landscape firing and modification, and also that between the intensity of wallaby hunting and the status of trade activities.

In a recent paper, O'Connor *et al.* (2011) reviewed the evidence for the introduction of the pig (*Sus scrofa*) into mainland New Guinea (not including evidence from Caution Bay, which were not available at the time). They argued convincingly that the evidence for the mid-Holocene presence of pig is unreliable, being derived from mixed middle and late Holocene deposits, and that the oldest directly dated pig bone in all of New Guinea is from Kria Cave in West Papua, dating to 1876-1638 cal BP. We will be addressing the appearance of pigs in the archaeological record at Caution Bay through a combination of careful assessment of the chronostratigraphic context of each occurrence and by direct AMS dating of key specimens. Analysis of ancient DNA of pig remains is being undertaken where DNA is preserved, to determine genetic relationships with existing regional pig populations and with other archaeologically recovered genetic profiles for pigs (Larson *et al.* 2007), and thus we seek to gain further insights regarding the routes of introduction of the pig into New Guinea.

Similarly, we will be addressing the appearance of the domesticated dog in the archaeological record of Caution Bay. Ethnographically and continuing today in many areas, dogs are of central importance in diverse aspects of New Guinean life, including hunting, security and various ceremonial contexts. Their introduction is anticipated to have had a marked impact on lifestyles throughout the region (Koler-Matznick *et al.* 2007).

### ***Caution Bay Landscape Use***

This theme involves consideration of the chrono-spatial distribution of occupation deposits across the study area, both synchronically and diachronically. Aspects of relevance include coastal vs. inland land use, the distribution of hamlets, villages, other occupation sites, burials and specialized activity areas, in comparison with the distribution of food resources and habitats and arable land. Spatial comparisons should facilitate the understanding of relationships between ceramic (Lapita and descendent) and non-ceramic (pre-Lapita and descendent) populations through time (see *Historicizing the Ethnographic Motu and Koita* above).

The environmental history of the study area is also directly pertinent to documenting and understanding human landscape use through time, as well as

understanding human impacts on the landscape. There is a likely recursive human-natural environment effect from the time of extensive land-clearance relating to gardens upstream of the study area and increased erosion and fluvial sediment deposition in the study area, or increased human burning activities and the creation, expansion or maintenance of the grassland savannah characteristic of the present day study area. These effects would have influenced wild food resource availability, the amount of land suitable for gardening, and the location of suitable long-term occupation locations (i.e., villages). We have started to address this issue through the study of coastal pollen cores (e.g., Rowe *et al.* 2013) and we are continuing with ongoing analyses of sediments and pollen from inland archaeological sites across the study area, and with the detailed studies of faunal assemblages that document the conversion of lowland rainforests to savannah woodlands and grasslands.

Detailed studies of the molluscan and marine vertebrate faunal remains also promise significant insights into the impact of fishing and other extractive activities on the coastal and off-shore environments of Caution Bay. From work already undertaken, it is clear that our studies will document major changes in this *milieu*, including local depletions and even extinctions of particular resources, and that we will document a series of corresponding shifts in the extractive focus of local human populations.

#### **Raw Material Sources**

Identifying the sources of raw materials present in the excavated sites will potentially illuminate both internal and external relationships within the Caution Bay study area and between Caution Bay and external localities. For example, chert is a widely available surface resource at Caution Bay and is also the most common raw material in every flaked lithic assemblage studied thus far. One study underway is using X-ray fluorescence technology to characterize chert sources to investigate patterns of chert usage over time and throughout the study area; the results may help to identify social boundaries as well as patterns of interaction and land use within the study area. In addition, we are interested in comparing the raw material sources of stone axes/adzes from the pre-Lapita, Lapita and subsequent periods at Caution Bay, not only to look at continuities or changes, but also to potentially gain insight into engagement between Lapita peoples and local inland populations for raw materials sourced to the mainland of PNG, or the establishment of offshore trading patterns for materials from island sources. Obsidian, as well as metamorphic and volcanic stone for adze and axe making are presently the subjects of sourcing studies.

Also in progress is the fabric analysis of ceramics from certain excavated sites to shed light on the origin and movement of pottery, potentially allowing further

insights into internal and external social relationships at Caution Bay.

#### **Technological Transformations**

Non-ceramic artefacts from excavated sites at Caution Bay include flaked lithics, ground lithics, drilled lithics, and worked shell, bone and sea urchin. Detailed analysis of the technology of manufacture, maintenance and repair, is being undertaken for all of these materials, with emphasis on identifying transformations through time, but also variability across the study area, and external relationships, including stylistic aspects and raw material selection.

Other than pottery, flaked lithics are the most common worked items by far, being present at nearly all of the excavated sites. Flaked stone was clearly in use on a daily basis. Detailed lithic analyses for each excavated site is providing a profile through time and across space of raw material selection, lithic reduction, and tool use, and will thus provide crucial data for evaluating wider patterns of landscape use. Comparisons of technology and raw material use-profiles from pre-Lapita and initial Lapita should be particularly informative, as should the comparisons of lithic assemblages at the ceramic transformations of Lapita to post-Lapita, etc., through to the ethnographic period.

#### **Scope and Organization of the Caution Bay Monographs**

While some of the preliminary results, especially in relation to the initial discovery of stratified archaeological deposits establishing the presence of Lapita people on mainland PNG, have been published elsewhere (e.g., McNiven *et al.* 2011, 2012b; David *et al.* 2011), from the onset we have worked towards the production of monographs as detailed accounts of our investigations, including analytical methods and primary results, and meta-analyses of trends and processes. This series of monographs reporting the Caution Bay investigations will not only detail the analytical results on a site-by-site basis for numerous sites but will also contain an emergent consideration of each of the research questions in progressive depth. To avoid potential repetition and redundancy, we have carefully structured the monograph series to present the mass of new information in an efficient, informative and interesting way.

The present volume is both an introduction, and a necessary accompaniment, to the succeeding volumes that will consist of a series of detailed reports on the investigations at a number of sites. The write-up of each site is focused on a site report chapter, detailing the investigations and the chronostratigraphy of that particular site, followed by results of specialist studies either in separate chapters if there is much material or otherwise incorporated into the site report chapter. Each



volume will conclude with a chapter or chapters that discuss relevant research goals and themes in light of the contribution of each site, or group of sites in the volume.

Each monograph will focus on both a research theme and one or more of the following sites or groups of sites: (1) a key, well and/or deeply stratified site, rich in cultural content, that is important for establishing a cultural sequence with that monograph's major theme in mind; (2) contemporaneous sites, to highlight ceramic stylistic conventions and/or transformations, or variable use of the landscape across the study area; or (3) groups of geographically proximate sites that document land use of a portion of the study area. For example, the second Caution Bay monograph has an emphasis on the deeply stratified Lapita age Tanamu 1 (ABHA) site, but also includes four other important sites of late Lapita to

immediate post-Lapita age (*c.* 2700-2400 cal BP) from across the study area, with a thematic focus on Lapita to post-Lapita transformations.

### **Organization of the Present Volume**

The first volume of the Caution Bay monographs is designed to introduce the goals of the Caution Bay project, the nature and scope of the investigations and the cultural and natural setting of the study area. To this end a series of chapters are included on the ethnographic and linguistic setting, the present and past natural environment, archaeological surveys of the study area and investigative and analytical methods. These background chapters will be repeatedly referred to in all the other monographs, as foundational reference materials for the broader study.

## Chapter 5.

# Koita and Motu Landscapes and Seascapes of Caution Bay

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and Julia Hagonia

### Introduction

A loss of place-names, and of the knowledge of history those named places hold, is effectively a significant cultural loss, and for this reason it was deemed important to record named places at Caution Bay before those localities were permanently altered. Therefore, named, culturally meaningful places within and near the Caution Bay study area were recorded in conjunction with local Koita and Motu community members in 2008-2010 (Figures 5.1 and 5.2). This mapping was undertaken in two steps, the first consisting of opportunistic recording of place names during early, preliminary stages of fieldwork in 2008 and 2009; and the second a focused study undertaken in early 2010 explicitly aimed at recording place names and their cultural significance in the face of imminent developments that would forever transform the landscape. This chapter presents the results of these studies.

### Preliminary Place-Name Study

In early 2008, prior to the commencement of archaeological surveys in the study area (see Chapter 8), archaeologists from the Caution Bay survey team visited all of the villages of Caution Bay, except Kido, to discuss forthcoming fieldwork and to elicit information on traditional locations of importance, especially former villages and other named places. While this was not a land use study, our aim for this first mapping study was to attain a sense of place so as to situate the archaeological pattern within an ethnographic cultural landscape. This was facilitated when community members asked the project team on a number of occasions to ensure that we reported on how the landscape was understood by them to consist of a rich array of named places that in many cases articulated closely with oral traditions, histories and localized activity areas.

Interviews were undertaken by Brad Duncan with local fishermen in particular, as well as others from Lea Lea, Papa and Boera villages who had a demonstrated deep knowledge of the offshore reef environment. Fishermen in all three villages demonstrated a particularly in-depth knowledge of the seascape in those areas utilized for their fishing activities. Most of the fishing in this region is today undertaken by free-diving from small outrigger canoes to spear fish and crustacea, and to collect

molluscs (giant clams, a variety of smaller shellfish, and sea urchins) and *bêche-de-mer* (sea cucumbers). These local fisherfolk possess intimate knowledge of the submarine topography and reefs, including locations that feature prominently in oral traditions and mythologies.

Three community representatives, Auda Delena (Lea Lea), Gau Ario (Papa) and Moi Dobi (Boera), after consultation with village elders and other community members, produced a map of Caution Bay showing the location of known traditional sites, especially those associated with traditional fishing activities. That information, as well as several onshore and offshore locations associated with the ancestral hero Edai Siabo and his first *lagatoi*, is reproduced as Figure 5.3. Particularly noticeable on this map is the number of place-names, as well as the variety of types of places. Motu terms on the map include: *iduka* – point or headland; *dogu* – deep bay; *motumotu* – detached portion of reef or small island; *pore* – mudflat; *sinavai* – intertidal inlet; and *nadi* – rock or stone (translations from Lister-Turner and Clarke 1931). The Koita term *tanamu* – low hill, also appears. Several of the above terms seem to be applications to submerged, or at least intertidal features, of terms that also are used for terrestrial topographic features.

Four traditional sites associated with the story of Edai Siabo were identified in the Caution Bay area, each of which was inspected during the course of the fieldwork. Each of these four locations is an integral component of the first *lagatoi* story that is said to have given birth to the annual *hiri* trade voyages (see Chapter 6 for details of the *hiri*). These four sites are of the highest cultural significance, relating to what is arguably the most important customary oral tradition of the Western Motu.

Daro Avei, a fisherman from Boera village, identified the first of these Edai Siabo sites, and although its exact location could not be identified, it is said to be located between Boera and the Vaihua River. Avei (personal communication 2008) maintains that stone flakes produced when making the stone axes to carve the first canoe become exposed on the ground during the dry season in this area. This is a traditional cultural site where a tree was felled, and the trunk roughly shaped, before the resulting hull was transported through the mangroves to the ancient village where Edai Siabo lived near Davage. This was the only instance during the entire



FIGURE 5.1. MOTU AND KOITA LANDSCAPE PLACE-NAMES AT CAUTION BAY (EXCLUDING CREEK AND RIVER NAMES).

surveys when the story of this site was told and, as far as we know, it is the first time that this story place has been recorded.

The second location was where the first *lagatoi* was built. The site is situated at Davage, close to a stream outlet that collects into a small pool just above the high tide mark on the northern extremity of the beach. In the old days, fishermen were said to have washed in this

pool after they returned from their day fishing at sea. A dugout canoe was being built at this locality when it was visited by the archaeological mapping team in 2008.

The third location is the place associated with the story about where Edai Siabo anchored the first *lagatoi* (Figure 5.4a-b). Moi and Mea Dobi (personal communications 2008) related the following story:

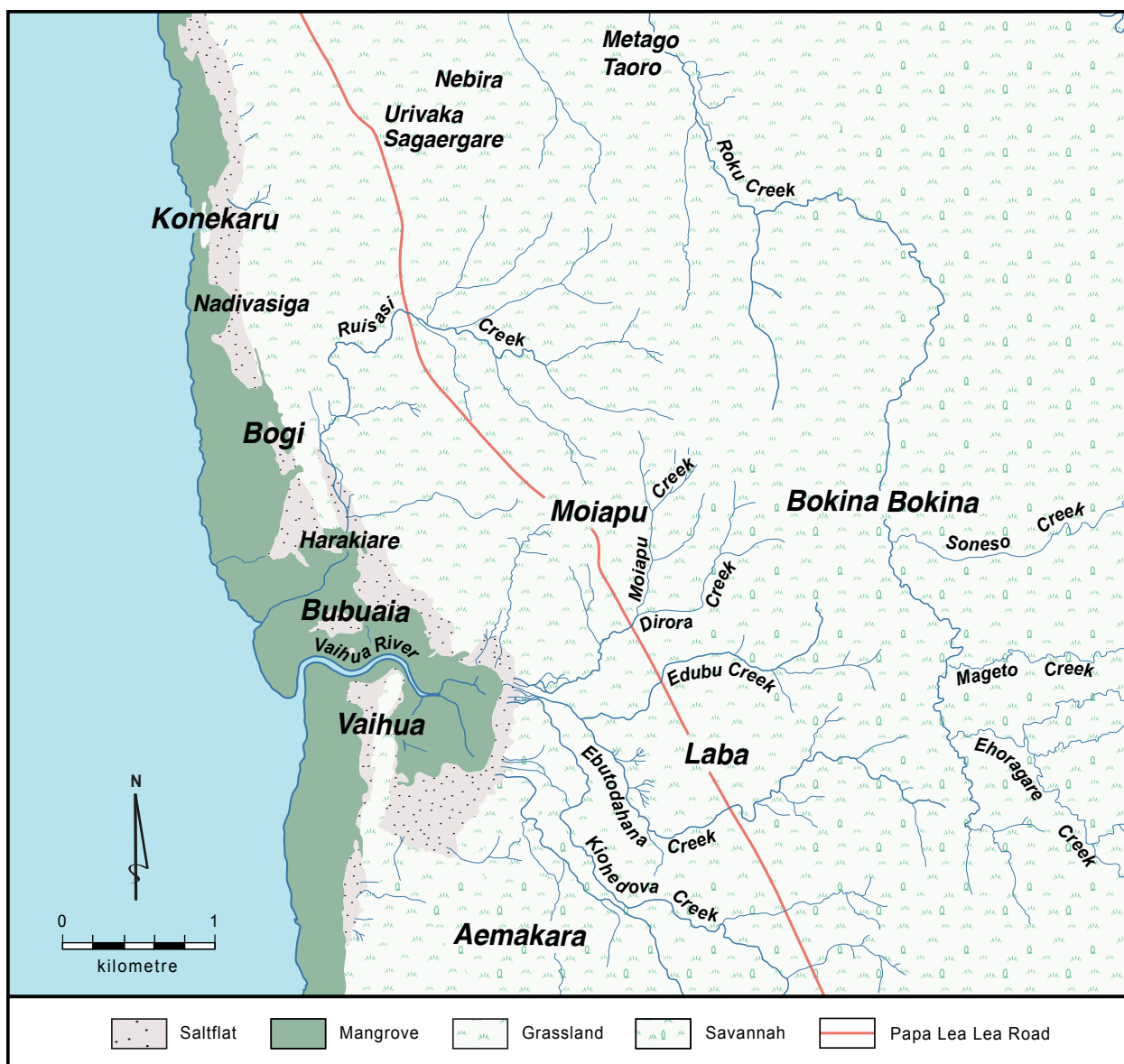


FIGURE 5.2. MOTU AND KOITA LANDSCAPE PLACE-NAMES IN THE CAUTION BAY STUDY AREA (INCLUDING CREEK AND RIVER NAMES).

This beach is associated with the [story of the] first *lagatoi* canoe. That anchor is where Edai Siabo from Boera first came ashore. There are underwater caves at Hidiha [Idihi] Island. He was pulled into an underwater cave by sea spirits and they taught him how to build the first *lagatoi* canoe. His mates saw his legs sticking out from the sea, and pulled him out of the cave. He later made a model of a *lagatoi*, but his mates laughed at him. He then made a full-scale model of it, which was the first large *lagatoi* canoe. They were hard times then, so he went to Kerema and established the *hiri* trade. He built the first *lagatoi* on the beach at Apau [Davage], which was the village before Boera. He sailed in around to here, and threw in the anchor here. The anchor was left where he came ashore. This is the location of the

sacred stone anchor from the first *lagatoi* boat [Moi pointed to a rounded, light grey stone whose partial exposure indicates that the stone is >20cm thick and >60cm long].

This is a traditional place for us, and we do not disturb the anchor. One time a researcher [name not recorded] came and tried to take a piece of the anchor, you know to see what rock type it was, but the bees came and stung him and scared him off.

The basalt anchor remains in this location, and part of it is still visible as it becomes exposed at low tide (Figure 5.4b). The anchor is probably of a type designed to fit in a cane or rattan basket, which was then attached via ropes to the vessel. Similar stone anchors were observed



FIGURE 5.3. MOTU AND KOITA PLACE-NAMES ON THE CAUTION BAY SEASCAPE, INCLUDING EDAI SIABO FIRST LAGATOI STORY PLACES.

by missionaries in 1883 and were often attached to boats by 100 fathoms (~180m) of line (e.g., Lennox 1903: 1). The beach in this area has high concentrations of ceramic sherds scattered over a very large area. High concentrations of stone artefacts (cores and flakes) along this beach were also identified by Mea Dobi (personal communication 2008) as *kavari*, which were used to make shell armbands, a practice that ended locally in the 1960s.

The fourth place is the site of the sea cave in which Edai Siabo was instructed how to make the first *lagatoi* by the spirit-being, as in the story recounted above. That

site lies *c.* 50m offshore to the southeast of Idih (or Hidiha) Island, as pointed out to us by Moi Dobi (Boera fisherman). The cave mouth is set in a shallow reef-top in water less than 1m deep. No features of the cave could be discerned during an inspection of the site, due to it being currently filled with sand.

**Detailed Mapping of Caution Bay Place-Names: The Focused Study**

The goal of the more detailed 2010 study was to locate and record Koita and Motu named places with the assistance of knowledgeable local consultants prior to



FIGURE 5.4. MOTU AND KOITA PLACES AT CAUTION BAY: A. LOCATION OF FIRST LAGATOI LANDING/STONE ANCHOR SITE (RED RECTANGLE), WEST OF BOERA VILLAGE, FEBRUARY 2008 (PHOTO: BRAD DUNCAN); B. ANCHOR STONE AT FIRST LAGATOI LANDING/STONE ANCHOR SITE, DURING LOW TIDE, WEST OF BOERA VILLAGE, FEBRUARY 2008 (SCALE IN 20 CM INCREMENTS) (PHOTO: BRAD DUNCAN); C. CULTURAL MATERIAL SCATTER AT KONEKARU, MARCH 2009 (PHOTO: ROBERT SKELLY); D. OUTRIGGER CANOES ON BEACH, PAPA VILLAGE, JANUARY 2008 (PHOTO: BRAD DUNCAN). E. PARTLY BURIED POSSIBLE ANCHOR STONE AT ARCHAEOLOGICAL SITE ABIV, SQUARE C, BOGI LOCALITY, FEBRUARY 2010 (PHOTO: SIMON COXE); F. JULIA HAGORIA HOLDING A STADIA ROD IN FRONT OF A POOL ON LOWER RUISASI CREEK WHERE SEIRI, KWARU AND FIRE-FISH ARE CAUGHT, MARCH 2010 (PHOTO: ROBERT SKELLY).

the area's physical transformation by development. The second stage of the place-names field survey occurred over six days in January to March 2010. The information presented here was provided by individuals from the villages of Papa (Renagi Koiari, Gau Ario, and Vaguia Seri), Boera (Kara Henao and Moi Miria), Lea Lea (Ray Auda and Nou Vagi), and Porebada (Goasa Ova), and is a record of major places and some lesser ones, along with their cultural meanings. The team avoided recording names of individuals and *iduhu* (corporate groups within a residential section of a village; see Chapter 3) or any other information relating to land ownership claims due to the contentiousness of the latter issue.

### Methods

Linus digim'Rina was the principal investigator for the place-names study, aided by archaeologists and University of Papua New Guinea archaeology students, a community liaison person, and one or more knowledgeable local community representatives. The team travelled primarily by vehicle, visiting each named location and recording information provided by the Koita and Motu consultants. Starting in the villages, all located outside the study area proper but representing the closest extant villages to it, the team often began by visiting gardens and other localities nearby, a process of familiarization between the survey team and Koita and Motu consultants, before beginning the more formal surveying and recording of the study area itself. This usually began by traversing the periphery of the study area by vehicle to narrow the target area of interest for the Koita and Motu consultants, who all had broad knowledge of the surrounding areas as well. Initially, the Koita and Motu consultants would point out a landscape feature from the vehicle. Then the team would alight at the given location, which would usually be explored on foot while one or more consultants explained the origin of the name, the significance of the place, and other relevant social, linguistic or historical details. The traditional anthropological method of 'listening and absorbing' during travels through the bush, forest, beaches and the like was adopted and certainly made the local consultants comfortable and appreciative of the fact that the survey team was recording their knowledge in a respectful manner.

### Recorded Places

The results of the place-names survey are presented in two parts, localities within the study area and those in the vicinity of the study area. Figure 5.1 shows the location of the recorded Caution Bay place-names except for rivers and creeks, while Figure 5.2 shows the location of all named locations, including rivers and creeks, in and immediately around the study area. In most cases a named place refers to a reasonably broad locality rather than to a specific spot, so that villages and the

general area around them have the same name, as do certain associated geographic features (see, for example, Konekaru below).

### Named Places in the Study Area

#### Konekaru

Konekaru (Motu for 'coconut beach') is both a beach and a former village site (Figure 5.5). Konekaru village was still occupied at the time of initial European contact in the late 1800s (Seligmann 1910: 41). Konekaru is still frequented by locals, especially for fishing, crab and shellfish collection, and villagers occasionally also camp there. Konekaru beach stands out as a highly visible local landmark, being the only natural beach opening towards the northwestern end of the mangrove vegetation fringing the study area. Midden shells, stone artefacts and pottery fragments indicative of the presence of former human settlement are strewn across the surface of the beach area (Figure 5.4c), extending landward along the drier sandbanks surrounded by mudflats, and were also observed on the reef top offshore to the west during spring low tides. Present-day Papa and Boera villagers have identified Konekaru as a locality of particular cultural and historical importance to them.

Further north, outside the study area towards the present Papa village is found Marohata – the unmapped Papa village burial site – followed by Kahiru picnic beach, and then Papa village (Figure 5.4d). According to consultants from Papa, the village was named after the northern rocky point along its shoreline, mainly because each time the fishermen tried to insert a mooring stick into the water they would hit the hard rock almost everywhere, and the sound made is onomatopoeically referred to as 'papapapa', thus Papa (although *papapapa* is Motu for flat rock). Additionally, certain historical versions assert that the initial inhabitants of Papa village were settled somewhere within the present village and at the base of a *veasi* (Koita) tree, thus the village is sometimes known as Veadu (Motu).

The Konekaru locality ends at a point to the south where the salt-flats, that run from the north, curve in and meet a small tidal inlet named Nadivasiga (*nadi*, stone, plus *vasiga*, scattered pebble flakes, in Motu). From afar, this locality is clearly marked by a large rain-tree with an extensive canopy.

#### Bogi

Bogi is a coastal locality, including a small inter-tidal inlet. The name Bogi is a Motu word for a specific type of fish. For local people at the time of the survey, perhaps the most significant cultural feature of the Bogi area was its vast mangrove vegetation, said to be home to eagles, flying foxes, crabs and fish. Nearby is a flying fox hunting



FIGURE 5.5. KONEKARU LOCALITY, SHOWING OPEN OCEAN BEACH BOUNDED BY MANGROVE FOREST TO NORTH AND SOUTH, AND BACKED BY MUDFLATS TO THE EAST (GOOGLE EARTH PRO IMAGERY DATED 16 MAY 2010).

ground (locals believe that eagles remain here because of the flying foxes). Bogi is an important crab extraction area for women, and male fishermen recognize the entire stretch of the mangrove environment covering Konekaru, Bogi, Bubuaia and Vaihua as a major fish spawning area. A great deal of fishing activity occurs along the shoreline of these four areas of richly endowed marine resources.

The partly buried surface find of a large unmodified rock at archaeological site ABIV (PNG National Museum and Art Gallery site registration code) along the Bogi sand dune is said by some local people to be an abandoned trading ship (*lagatoi* in Motu) anchor (*dogo* in Motu), although it is common for locals to attribute a *lagatoi* origin to any largish rock along this coast (Figure 5.4e). Nevertheless, this rock is a manuport that had to have been deliberately placed on top of the dune. Of the three local consultants who observed this rock, two stated it was too small for a *lagatoi dogo*, but that the stone might have been suitable for smaller canoes/rafts that travelled eastwards on occasional trading trips (*tautauna* in Motu). However, sometimes several smaller stones were bound together with rattan to comprise a *lagatoi* anchor.

#### Bubuaia

Continuing southward, the next major place name after Bogi is Bubuaia, a locality comprised of mangrove forest and salt-flats on tidal inlets north of the bigger Vaihua inter-tidal inlet, with a channel running through the mangroves to the sea. At Bubuaia, salt-flats on the east (the lower Ruisasi Creek) and west bracket the sand ridge extending southwards from the Bogi locality. On slightly higher ground on the tip of the sand ridge at the southern end of this dune is a well-known fish-smoking area named Harakiare, within the Bubuaia locality.

#### Vaihua

Vaihua tidal inlet is the largest inlet within the survey area and is culturally significant for various reasons. It has an extensive area of mangrove vegetation and salt-flats that receive sediment deposition from the Vaihua River and Moiapu, Dirora, Edubu, Ubutodahana and Kiohedova tributary creeks (Figure 5.2). Eastward towards higher ground, the line of pandanus (*geregere* in Motu) vegetation along Edubu Creek marks several deep



pools that provide home to several freshwater fish species targeted by local villagers, and fishing continues to take place here today. Aemakara, southeast of Vaihua, was said to have formerly been a permanent village. Further south is a locality known as Roga, though specific details of this location are not available.

#### Aemakara

Aemakara is a locality south of the Vaihua River study area that played an important role in ancestral times, especially in regard to migrations of the Isumata Koita. Aemakara was a former Koita village location on a low hill of the same name. There are also vague suggestions of burial grounds marked by stones here. It was suggested by some local consultants that some of the later inhabitants (in pre-contact times) of Aemakara, Davage, Konekaru, and Boera were closely related.

#### Ruisasi

Ruisasi is a creek that rises north of Moiapu Hill where several smaller tributaries combine before it crosses the Papa-Lea Lea Road and flows westward and southward down to the Bogi area before discharging into the Bubuaia tidal inlet. Lower Ruisasi Creek contains a series of mudflat pools, including a stretch of deeper spots along the creek used for fishing (*seiri koa*) (Figure 5.4f). This area is commonly used as a present-day fishing ground for several types of fish including the local delicacy *seiri* or ‘milk fish’. Other fishes caught from this location include *kwaru* (Motu) (smaller mullets) and ‘fire-fish’. Ruisasi Creek is also sometimes referred to as the North Vaihua River.

#### Moiapu

Moiapu Hill is a significant landmark from any point within the study area. Moiapu is a SSW-NNE-oriented ridge that constitutes the watershed between the Ruisasi Creek and Vaihua River drainages. Some local people say that their ancestors settled Moiapu Hill. The name variation Moiapu or Moiopu appears to matter little. Hunters of wallabies, feral pigs and bandicoots from Lea Lea village use the hill as an ambush point and a lookout during major hunting expeditions involving men divided into several groups (*seviro*). For instance, if the hunting camp was set up at Buo Creek (at the northern foot of Metago Hill, where the present Bible College is situated), a hunting group would be left at Metago to set fire to the grass, while the other groups would locate themselves in the Moiapu Hill area to trap the wallabies escaping from the fire in nets so they could be easily speared. Ideally, this hunting activity is best done when the *lahara* (westerly trade winds in Motu) are blowing (although other accounts suggest wallaby hunting in this area occurred a month or two before the *lahara*).

#### Bokina Bokina

Bokina Bokina is a cultural area in the southeast of the study area that is said to include a former settlement, although the location of the former village is unknown. In a culture-story of *lagatoi* construction, Bokina Bokina was the name of an important Koita man from Dirora village located in the hills approximately 5km to the northeast of the locality reported here and it is not known why this is also the name of the locality in the study area. Logs from the *akaka* tree that were used to build the *lagatoi* were said to have been brought down from the hills along Moiapu Creek, which runs through the reported Bokina Bokina locality.

#### Edubu

Edubu Creek is a major tributary of the Vaihua River that is bigger and deeper than nearby Moiapu and Dirora Creeks, and unlike the latter, is lined with pandanus palms as it descends to the Papa-Lea Lea Road. One villager advanced the name Geregere for the creek, presumably due to the abundance of pandanus palms bordering the creek (*geregere* in Motu), but this appears to be an error in nomenclature.

#### Laba

Laba (Motu) refers to the fertile land area extending from the southern banks of Edubu Creek south towards Ubutodahana Creek. Historically, this is an area of crop cultivation, particularly yams, bananas and sugarcane.

#### Ubutodahana

South from Laba is Ubutodahana, an east-west-oriented tributary creek of the Vaihua River. Ubutodahana Creek (*ubuto*, ‘juicy red tropical fruit’ and *dahana*, ‘creek’ in Koita) is lined with rain-trees along its banks. There are at least six additional named tributary creeks of the Vaihua River south of Ubutodahana Creek, namely: Kiohedova, Rabiana, Variomoto, Inuhavaka, Omoro and Manubada. The locations of most of these creeks have not been identified with full certainty as they were not visited and consequently only Kiohedova is mapped.

#### Roku

Roku is a large creek flowing along the western edge of the Dirora Hills, cutting across the northeastern corner of the study area. Roku is fed by smaller but notable westward-flowing creeks originating in the Dirora Hills: from north to south, Soneso, Mageto and Ehoragare Creeks. Roku is recognized as an ancestral drinking water location, providing respite for travellers moving to and from the coast carrying garden crops, fish and shellfish. Roku means pawpaw or similar fruit in Motu and also refers to a variety of local shellfish in that

language. A number of culturally significant *nata* trees were observed standing several meters from the creek during the surveys. Wooden bowls for water storage and/or serving food are carved from the broad-leafed and stout *nata* trees. Roku Creek is known as Kauka Creek on the topographic maps for the area; it is possible that Kauka Creek refers to the lower portions of this creek and Roku to the upper.

#### *Named Places Near the Study Area*

##### Urivaka Sagaeragare and Nebira

Urivaka Sagaeragare 'seeing through the nostril' (one where the septum has been severed) is the name of a low hill a few hundred metres to the north of the study area, adjacent to a similar landmark called Nebira Hill.

##### Goroto Koita

Goroto Koita (Koita) Hill is another significant cultural site and is a vantage point for animal hunters. While a fire-setting group is left at Goroto, other hunting groups would descend and strategically locate themselves at various places within the vicinity of the Konekaru-Bogi area, intercepting fleeing animals at these locations.

##### Metago Taoro

Metago Taoro Hill played a similarly significant role for hunters as Goroto Koita Hill. Fire-setting groups remain on Metago Hill, while ambush-hunting groups wait at Moiapu Hill to intercept animals fleeing the fires. It is from such hunting trips and during camping at locally renowned spots like Buo Creek that songs are composed and recited, telling of sojourns and adventures within one's own territories. One such song was Vaurabada (big cuscus in Motu), which has a poetic and melodic rhythm about hunting. This song was kindly sung to the mapping team by an Elder from Lea Lea village. Seated at the top of Metago Hill, with Moiapu Hill visible to the southwest, Dirora/Iokoru Hill to the east, and Konekaru to the west, and with the northwesterly breeze blowing, the old man launched into this melodic song (songs about places are not unusual in PNG, being part of a wider way in which the landscape is layered with intangible knowledge; e.g., see Feld 2012; Halvaksz 2003; Rumsey and Niles 2011; Weiner 2002).

Buo is a creek that reportedly begins near the northeastern foot of Metago Taoro Hill and flows north towards Koba catchment. However, it is Roku/Kauka Creek that flows along the east side of Metago Taoro, and perhaps Buo refers to a branch of Mokeke Creek, located just over a kilometre to the northeast of Metago Taoro. At Buo hunter's camp, the people rested after hunting, and cleaned and dried their meat to take home.

##### Dirora Gotera

Dirora Gotera refers to the closest range of hills east of the study area. Beginning with Dirora Hill (Iokoru in Koita) in the north, these hills and ridges extend southwards with a Y-shape and gradually terminate to the south. The only access to the steep Dirora Hill is via the relatively flat area to its northeastern side. The narrow stretch of grassland surrounded by thick vegetation at Dirora peak is frequently compared with a man's balding head. Dirora also refers to an abandoned settlement site on the hilltop. Bokina Bokina, an Elder or leader of Dirora, was reported to have driven out the rest of the villagers when, one afternoon, he discovered that the people had carelessly helped themselves to his ancestral water-well and left it murky.

The Dirora Gotera range has the thickest of all local vegetation, and local people recall it as a place of mystery woven with vague traces of historical migrations and sojourns. Locals report losing consciousness for days without food here, as if captivated by invisible spirit-inhabitants. Once released, one appears wasted, nearing death. It is said that feral pigs, birds and other animals abound in this area. Giant snakes and lizards are said to have been sighted, carrying whole pigs up trees for their meals.

Due to the difficult terrain and remoteness of this area, and the seeming elusiveness of the trees themselves, locals infrequently collect sandalwood (*boto* in Motu) here. As *boto* is considered gendered and is therefore never far from its opposite sex, once one is located, its partner should be somewhere nearby. Locals raise good money from buyers in Port Moresby when such sandalwood is sold.

##### Davage

Davage is the ancestral village of the present Boera village. Located just a few kilometres along the coastline south of the study area, this very large cultural site is covered with potsherds and stone artefacts. The small Davage beach is bounded by low hills on either side running parallel to the coast (Figure 5.6a-b). Their ridges of grassland and peaks are lightly vegetated and sparsely covered with piles of rocks (Figure 5.6b). It is from these hills, especially the southern ones, that the women looked out westward for returning *lagatoi* during the season known as *lahara*. Eastward to the back of the former village is a short ridge oriented north-south. The highest point on this ridge is called Nemu, which was also formerly used as a lookout for returning *lagatoi* and more recently as a strategic observation point during WWII; concrete gun emplacements, magazines and other structures are still visible.

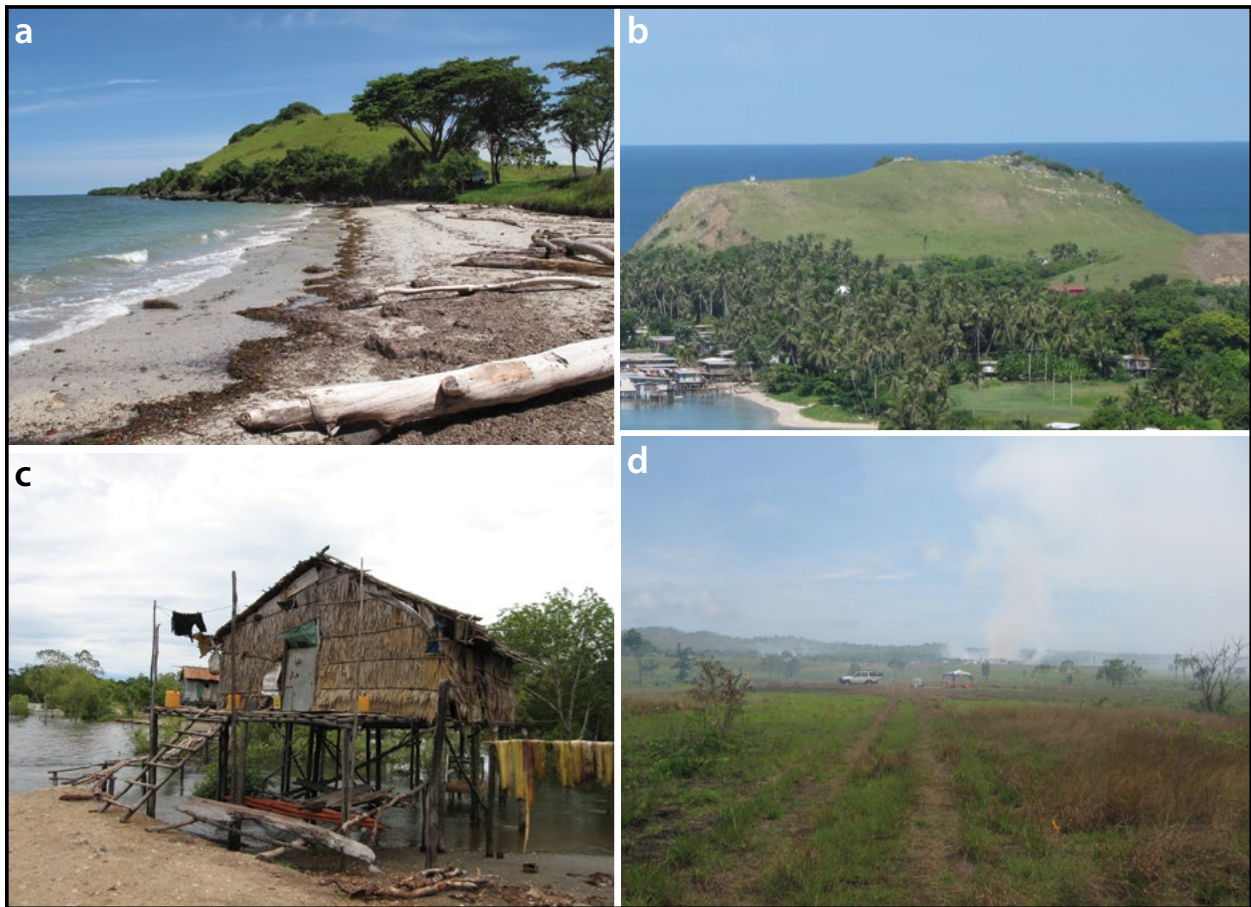


FIGURE 5.6. CAUTION BAY MOTU AND KOITA PLACES: A. SOUTHERN EDGE OF DAVAGE BEACH, LOOKING NORTH, MARCH 2010 (PHOTO: ROBERT SKELLY); B. HILL DIRECTLY SOUTH OF FORMER VILLAGE OF DAVAGE, WHERE WOMEN WOULD WATCH FOR RETURNING LAGATOI ROUNDING LAGAVA ISLAND AT THE NORTHERN END OF CAUTION BAY, MARCH 2010. PRESENT BOERA VILLAGE IN LEFT FOREGROUND (PHOTO: ROBERT SKELLY); C. STILT HOUSE, SOUTH SIDE OF LEA LEA VILLAGE, JANUARY 2008. NOTE CANOE PLATFORM AT FRONT (PHOTO: BRAD DUNCAN); D. SMOKE FROM GRASS FIRES SET BY HUNTING PARTY FROM BOERA VILLAGE, OCTOBER 2009. ARCHAEOLOGICAL SITE ABBK SQUARE B EXCAVATION IN PROGRESS UNDER SHELTER (PHOTO: IAN MCNIVEN).

Davage is said to be the site where Edai Siabo in collaboration with Bokina Bokina, an important man from Dirora, and Guamo Hada an important leader from Buria, brought down the *akaka* logs for the construction of *lagatoi* hulls. It is said that relics of this venture remain ‘petrified’ at Davage. The involvement of Buria in the north, Dirora in the northeast and Davage/Boera in the southwest give an indication of the scale of effort involved in what is culturally said to be the first *hiri* trade ventures emanating from this region.

Clay for the Davage potters was collected from one source only, located on the eastern outskirts of present Boera village. This still exists, but is on private property and not freely accessible.

#### Lea Lea

Lea Lea (also sometimes Rea Rea) village is a Motuan village on the coast near the centre of Caution Bay,

where stilt houses with traditional elements are still used (Figure 5.6c). It was reported that people migrated from the inland mountains of Koita, Sogeri and Koiari and, after stopping at various places along the way, settled first on Darebo Hill and later on Buria Hill (wrongly marked on the topographic map 1:100,000 series as Darebo Hill) before moving to Lea Lea. Darebo is about 1.5km to the southeast of Buria, and was an important settlement location after Dirora but before Buria. Presently the Lea Lea villagers cultivate around Darebo Hill, which is culturally significant to the locals.

Buria Hill provided a traditional lookout spot for the returning *lagatoi* during the *hiri*. Some claim that the significance of Buria lies in its possession of a wide variety of innate powers which people can access and use to their advantage, albeit only if correct ritual procedures are adhered to. A particular variety of wood is only found at Buria, named *buria buria* that is used for carving spearheads. To the immediate east of Buria is

the Koki locality, a hill and water source that continues to supply the locals to the present. East of Koki is Dobi Hill, another ancient village site, that similarly forms part of the ancestral landscape of the Lea Lea villagers.

Immediately north of Lea Lea is Boilada, an area of gardens where several varieties of yams and tapioca were cultivated, along with bananas, sweet potatoes and sugarcane. Locals state that sugarcane figured significantly in traditional times, especially during ceremonies, but cultivation of this crop has declined dramatically in recent years. Traditionally, yams grown here are considered to have comprised of five different varieties: *taitu* (*Dioscorea esculenta*), *sovoru* (*D. alata*), and three others whose details were not recorded. A particular variety of the *taitu* yam was said to have been harvested two years after planting, which is unusual. Its harvest was associated with a ritual performed immediately after the first crops have been harvested. The first *taitu* harvested were either boiled in clay pots or roasted over the fire. All members of the *iduhu* (see Chapter 3) were called together and seated before the *iduhu* leader in a circle. The leader takes the first bite and, in one hand, moves the yam around his head and down to the abdomen area for the second round motion, before descending down to the leg area, and is further moved under the knee joints and out towards the next *iduhu* member, who is usually the heir apparent, eldest son of the leader. Every member of the *iduhu* repeats this procedure until the yam reaches the last person who finally discards it from the house. *Sovorou* grown near Lea Lea is so favored by the Porebada villagers that they seek these yams each time they visit, along with coconuts and mud crabs. Generally, planting of yams is seasonal and occurs between October and March, while harvesting commences in July.

## Conclusions

The Caution Bay study area and its immediate environs was predominantly a hunting, fishing and, to a limited extent, gardening area, that contributed to the subsistence requirements of Lea Lea, Papa, Boera and Porebada villages at the time of this study. Since the cessation of cattle herding (see Chapter 7) and other related activities on the land a few decades ago, a small number of gardens have been established in the study area (e.g., a banana patch at Konekaru), with a few more just outside it towards Papa village next to hamlets around Nebira Hill. Crab collecting and fishing along the shorelines of Konekaru, Bogi, Bubuaia and Vaihua, and occasional hunting of flying foxes among the mangroves, occur in the study area. Hunting in groups aided with the burning of Kunai grass (*seviro*) is less common these days, although a few small-scale hunts of this nature were witnessed in the study area on separate occasions in late 2009 and early 2010 by archaeologists conducting the excavations (McNiven *et al.* 2012a: 144–145) and involved substantial grass fires (Figure 5.6d).

The number of places recorded on the seascape indicates the ongoing importance of the sea to the local people for subsistence, but also because of the former activities and stories associated with the culture hero Edai Siabo and the *hiri*.

The oral historical information recorded for this study mentioned several former permanent settlements located at Caution Bay: Konekaru, Aemakara, Davage, Dirora, Buria and Darebo. Of these, only Konekaru was located in the study area, with Aemakara a short distance outside the study area to the southwest. The Bokina Bokina locality, also within the study area, presents the possibility of an older settlement locality, with the inhabitants said to have originated from the former hilltop settlement of Dirora.

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